In the Claims:

Claim 1 (previously presented): A method for the wet chemical preparation of a materials library comprising a large number of solids from reaction mixtures having different compositions, characterized in that the reaction mixtures are introduced, in a spatially separated way, into microreaction chambers in removable reaction plates in a reactor and reacted in the form of solutions or suspensions in the microreaction chambers at temperatures of up to 1000 ^{0}C and internal pressures of up to 1000 bar and wherein the solids produced in the reactions are deposited in a spatially separated way on a removable reactor bottom plate.

Claim 2 (currently amended): The method according to claim 1, wherein the reaction mixtures are introduced into ~~isolated cavities~~ bores that are part of the reaction plate and ~~that are realized as borings~~ serve as microreaction chambers.

Claim 3 (previously presented): The method according to claim 1, wherein the solids produced in the reactor bottom plate are subsequently separated from the supernatant liquid phase and the remaining solid phase is calcined.

Claim 4 (previously presented): The method according to claim 1, wherein the reactor bottom plate comprises a material that scatters X-rays elastically.

Claim 5 (withdrawn)

Claim 6 (previously presented): The method according to claim 1, wherein the solids of the materials library are subsequently characterized by non-destructive analytical methods.

Claim 7 (previously presented): The method according to claim 4, wherein the reactor bottom plate consists of a single-crystal slice, wherein the crystal is selected from the group consisting of Si, Cu, quartz, rutile, anatase, zirconia, Ge, Al, sapphire, Fe, Ti, Zr, Co, Ni and Sn.

Claim 8 (original): The method according to claim 7, wherein the reactor bottom plate consists of a (711) Si single-crystal wafer.

Claim 9 (currently amended): The method according to claim 4, wherein the reactor bottom plate is used to characterize the solids deposited on the reactor bottom plate with reflecting microarea X-ray diffraction ~~is employed to investigate the materials library deposited onto the reactor bottom plate~~.

Claim 10 (withdrawn)

Claim 11 (withdrawn)

Claim 12 (withdrawn)

Claim 13 (currently amended): The method according to claim 1, wherein said reactor has a layered design, ~~essentially~~ comprising: a reactor bottom plate, on top thereof a lower part of the reaction plate, made of an inert material, having bores of from 0.05 to 20 mm in diameter, on top thereof an upper part of the reaction plate, made of a hard material, having identical bores, on top thereof a sealing layer, on top thereof a layer of a hard material with which the reactor layers are compressed and sealed using suitable devices.

Claim 14 (original): The method according to claim 13, wherein said inert material consists of Kapton, Teflon, graphite, Kevlar, Mylar or steel.